IN THE CLAIMS

Please amend the claims as follows:

Claims 1-11 (Canceled).

Claim 12 (Currently Amended): A method, implemented by a diagnostic device, for diagnosing functional faults of a functional architecture including functions for performing a service in a motorized vehicle physical object and associated with sensors and actuators that produce and consume data, said method comprising:

mapping, by said diagnostic device, said functions onto a hardware architecture composed of hardware components;

measuring, by said diagnostic device, a property of said motorized vehicle physical object with at least one of said sensors so as to obtain raw data;

creating a first list of particular values based on said raw data and corresponding to functional faults of the sensors and actuators of said motorized vehicle;

creating a second list of particular values corresponding to functional states for said hardware components relative to a propagation of signals through said hardware architecture thereby indicating a state of propagation of information relating to said functional faults of said sensors and actuators across the functional architecture;

formulating a functional diagnosis of the service based on the first and second lists of particular values; and

recording the particular values and their propagation on a memory device.

Claim 13 (Previously Presented): A diagnostic method according to claim 12, wherein said hardware architecture is an electronic architecture and, after formulating of said

functional diagnostic, said method comprises a step of deducing an operational diagnosis of said electronic architecture onto which said functions are mapped, said electronic architecture comprising calculators, networks, signal lines, and connectors.

Claim 14 (Previously Presented): A diagnostic method according to claim 13, wherein creating the lists of said particular values is performed after mapping of the functions onto the electronic architecture.

Claim 15 (Previously Presented): A diagnostic method according to claim 14, wherein the particular values of the second list correspond to at least one of the following:

cut bus;

corrupted frame;

short circuit applied to a wire;

wrong contact applied to a connector of a strand, sensor, actuator or calculator; and

execution fault applied to a microcontroller.

Claim 16 (Previously Presented): A method according to claim 13, wherein, given said operational diagnosis for the service, the particular values of the second list comprise functional particular values associated with sensors, actuators, and the method further comprising a step of listing functions executing the service for at least one data flow between two functions, or between a sensor and a function, or between a function and an actuator, for which no functional particular value is defined for the flow, and wherein if an operational particular value is defined, then a new functional particular value is automatically determined for said at least one data flow.

Claim 17 (Previously Presented): A method according to claim 12, further comprising listing undiagnosed feared incidents to construct an analysis of functional safety of the functional architecture.

Claim 18 (Previously Presented): A method according to claim 12, wherein the particular values and feared incidents are listed to deduce an analysis of functional safety of the functional architecture.

Claim 19 (Previously Presented): A diagnostic method according to claim 12, wherein the functional architecture comprises an architecture with which a vehicle can be equipped.

Claim 20 (Previously Presented): A diagnostic method according to claim 12, further comprising analyzing feasibility and/or susceptibility to failure of functioning of the functional architecture and analyzing establishment of an output indicating the feasibility and/or susceptibility to failure.

Claim 21 (Currently Amended): A commercial article provided with a computer-readable memory, a program executable by a computer being recorded in the memory for diagnosis of functional faults of a functional architecture including functions for performing a service in a <u>motorized vehicle</u> ~~physical object~~ and associated with a sensor, the program including encoding for:

mapping said functions onto a hardware architecture composed of hardware components;

measuring a property of said <u>motorized vehicle</u> ~~physical object~~ with said sensors so as to obtain raw data;

determining and listing a first plurality of particular values based on said raw data and corresponding to functional faults of said sensor;

determining and listing a second plurality of particular values corresponding to functional states for said hardware components relative to a propagation of signals through said hardware architecture thereby indicating a state of propagation of information relating to said faults across the functional architecture;

forming a functional diagnosis of the functional architecture based on first and second pluralities of said particular values; and

recording the particular values and their propagation on a memory.

Claim 22 (Previously Presented): A data-processing tool programmed to perform the method for diagnosing functional faults of a functional architecture according to claim 12.

Claim 23 (Previously Presented): A data-processing tool comprising the commercial article according to claim 21.

Claim 24 (Previously Presented): A diagnostic method according to claim 12, wherein said particular values of said second list include a value associated with the presence of a connection fault between said hardware components.

Claim 25 (Previously Presented): A diagnostic method according to claim 24, wherein said connection fault is a short-circuit formed by a wire between said hardware components.

Claims 26-29 (Canceled).

Claim 30 (Currently Amended): A diagnostic method according to claim [[29]] 12, wherein said sensor is a speed sensor and said property measured with said sensor is a wheel speed for said vehicle.

Claim 31 (Currently Amended): A diagnostic method according to claim [[29]] 12, wherein said hardware components include calculators, networks, signal lines, and connectors.